U. STANFORD U. S-4,5 1956 AF12 NORTH CHINA AF 12

Table 2. National Highways in the North China Region*

(Unit: Km. = kilometers. Mi. = miles.)

Highway	Terminals	Route	Total Length#
Basic No. 2.	Chiuchiang-P'angchiang	Tientsin, Peking and Changchiak'ou	5,385 Km. (3,366 Mi.)
Basic No. 4	Wanting-Ch'engte	Taiyuan, Shihchia-chuang, Paoting, Peking, Kupeik'ou Ch'engte	4,615 Km. (2,884 Mi.)
Longitudinal No. 1	Haian-Shanhaikuan	Tientsin, Fengjun, Linyi	4,297 Km. (2,686 Mi.)
Longitudinal No. 3	Changte- P'angchiang	T'aiku, Taiyuan, Tat'ung	2,128 Km. (1,330 Mi.)
Lateral No. 5	Tsingtao-Ninghsia	Taming, Hantan, Ch'angchih, Fenyang	1,949 Km. (1,218 Mi.)
Lateral No. 6	Tolun-Shanpa	Changchiak'ou, Tat'ung	1,224 Km. (765 Mi.)
Total			19,598 Km. (12,249 Mi.)

[FACING P. 809]

* Kuo-tao Wang [National Highway Network], Nanking, Bureau of Information, Executive Yuan, 1947, pp. 3-50.

Covering the total length of each highway, not merely that section within the North China Region.

1:Stanford U. S-4, 5 1956 AF12 North China
~~AF12~~ AF 12

IV. HIGHWAY ROUTES

•491 Exact distances of the network of highway in North China are difficult to determine because the statistics given in provincial reports do not agree with those given in nationa reports. No distinction is made between provincial roads and county roads, nor is there any consistency in the various records concerning the completion of new roads or when such roads are open or closed to traffic. This discussion must be confined to the principal national, provincial, and inter-provincial highways in the North China Region. (See Tables 2 and 3).

1: STANFORD U. S-4,5 1956 AP12 NORTH CHINA AF12

Table 3. Provincial and Inter-provincial Highways in North China
(Unit: km. = kilometers. Mi. = miles.)

Highway	Total Length
Peking-Linyü	332 km. (207 Mi.)
Peking-Kupeik'ou	132 km. (82 Mi.)
Peking-Ankuo	455 km. (284 Mi.)
Peking-Jench'iu	270 (169 Mi.)
Peking-Tangku	170 Km. (106 Mi.)
Peking-Tangshan	28 km. (18 Mi.)
Peking-Nank'ou	145 km. (90 Mi.)
Peking-Shihchiachuang	283 Km. (177 Mi.)
Tientsin-Ihsien	199 Km. (124 Mi.)
Tientsin-Ta'anghsien	128 km. (80 Mi.)
Taiyuan-Shihchiachuang	230 Km. (144 Mi.)
Taiyuan-Teshengk'ou	262 Km. (164 Mi.)
Taiyuan-Fenglingtu	674 Km. (421 Mi.)
Kupeik'ou Ch'engte	118 Km. (74 Mi.)
Taiyuan-Ta-t'ung	369 Km. (230 Mi.)
Paikueichen-Chinch'eng	348 Km. (219 Mi.)
P'ingting-Liaohsien	121 km. (76 Mi.)
Taiyuan-Shihchuntu	288 Km. (180 Mi.)
Hochin-Houmachen	104 Km. (65 Mi.)
Total	4,656 Km. (2,910 Mi.)

* Chin Chia-feng, Chung-kuo Chiao-t'ung Chih Fa-chan Chi Ch'i Ch'ü-hsiang [Communications of China and the Trend of Development], Nanking, Cheng-chung Book Company, 1937, p. 177. Fei-ch'ü Ti kung-lu Chiao-t'ung [The Highway Transportation of Communist China], Taipei, Sixth Section, Central Committee, Nationalist Party, 1953, pp. 23-24.

[FACING p. 810]

1:Stanford U. S-4, 5 1956 AF12 North China
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AF 12

491 In addition to the national highways listed above, there are many provincial and inter-provincial highways in North China. Some of the most important are listed in Table 3.

1:Stanford U. S-4, 5 1956 AF12 North China
~~AF12~~ AF 12

491 Only the principal provincial and inter-provincial highways have been listed in Table 3. As of 1953, the total length of all highways in the North China Region was approximately 12,200 kilometers (7,625 mi.).[20]

V. INLAND WATER ROUTES

487 North China, unlike the Central-South and the East China regions, has few large 502 navigable rivers. Table 4 includes some of the more important navigable waterways in this region.

20. Economic Bulletin, Hong Kong, June 7, 1954, pp. 4-5.

2:Gamble S-5 (1926-1933) 1954 AF12 North China AF12

621 using. The new style machine made it possible to weave some four or
286 five pieces of cloth per day instead of one or two.

In 1914 the Home Industry Society was organized to continue the iron loom promotion work and to develop a program for the judging and encouragement of industrial production. It was reported that the villagers bought some 60 of the new looms. The people felt the campaign had been so successful that they presented a medal to Mr. Mi for his work on the program.

After the new looms were well established Mr. Mi encouraged the village to engage some special weaving teachers who could teach additional people how to weave and also improve the quality of the output. The necessary funds for the teachers were to be raised by the society.

In 1923 sock knitting machines were introduced in Chai Ch'eng. At the time of our study five families had them.

Road Repair

491 In 1914 the village roads were in such poor shape and the drainage to
621 the east and south was so poor that the roads were apt to be washed away in the summer rains. At the suggestion of the village heads $200 was taken from the village funds and used for the repair of the roads. The leaders in the eight districts were directed to inspect the roads and persuade the residents to repair them. The regulations provided that, if the roads were in very poor condition, the whole village should plan to repair them. Regulations were also adopted to prevent the storing of fertilizer, fuel, and other things in the streets.

Sanitation Office

621 Sun Fa-hsü, when he came to Chai Ch'eng in 1915, pointed out many
364 unsanitary conditions in the village, fertilizer piled in the street, bad drainage, and flooding during the summer rains. The village head and elders met to discuss the sanitary conditions and decided to appoint two men for each of the five streets who should compel all the families to clean their share of the streets and to improve the sanitary conditions in their houses. Once again the roads were repaired and the planting of trees along the streets was encouraged.

At the suggestion of the village head a Sanitation Office was organized in October, 1915. A director and five secretaries were appointed and regulations were adopted. The regulations provided that every day be-

2:Gamble S-5 (1926-1933) 1954 AF12 North China AF12

not show any distinctive and continuous differences between the districts, only occasionally have we given the detailed district figures.

When the Mass Education Movement began its work in Ting Hsien in 1926 it had its headquarters in the market village of Chai Ch'eng, in the east central part of the hsien. It took for its field of work at that time Chai Ch'eng, the neighboring market town of Tung T'ing, and the 60 villages that did most of their trading with Chai Ch'eng and Tung T'ing. This was our Experimental District. The area included in the District is shown in Figure 1. There were 10,445 families in the 62 villages. The reported farm area of the villages was 238,563 mu, an average of 23 mu per family. In the different villages the average amount of farm land per family varied from 11.4 to 50.0 mu.

A 36 foot national road for cart and animal travel came from Paoting and went on south to Shih Chia Chuang. During the Ch'ing dynasty there was a watchman every five li and a watch house every 10 li. It was the watchman's duty to repair the road, especially when the Emperor came out on a trip. After 1911 the watchmen were discontinued and the road fell into disrepair, but it was still being used. In 1916 the unused land in the right of way, amounting to some 60 mu, was allocated by the provincial government to the Girls' School as an endowment. The land was rented and the income used by the school.

Five hsien roads that radiated from the city to the hsien boundaries provided for local traffic and for transportation to the neighboring hsien. The villages were all interconnected by minor roads. Any repairs made on the roads were done by the villagers living nearby. In some villages the alumni association of the Mass Education Movement promoted a program of road repair.

When a necromancer reported that broken feng-shui was the reason for the death of an unusual number of the people living in the houses facing on one of the village roads the regrading of the street became a matter for the entire community. Every family on the street sent at least one man and several also sent carts to help with the work. The feng-shui was broken because part of the road drained to the north and part to the south. The situation was made still worse by the fact that the water that flowed north joined water coming from the northwest and ran off to the east. The necromancer stated that the feng-shui could be restored if the road was regraded so that there was a continuous flow from north to south and the water from the northwest flowed down the street in-

2: Gamble S-5 (1926-1933)1954 AF12 North China AF12

stead of crossing it. If the grading was not too exact and some of the summer run-off stayed in the street, it would be still better for the feng-shui.

Except for the road from the station to the city and some of the main roads inside the city, Ting Hsien had no paved roads.

Open, springless, iron-tired carts made of date, locust, elm, and willow wood, with wheels 3′ 8″ in diameter, furnished a large part of the local transportation. Their cost ranged from $60 to $80. Other means of transportation were wheelbarrows, rickshas, pack animals, and human carriers. The charge for hauling by cart was $3.00 a day for a one-animal cart and $4.80 for a two-animal cart. This was about 60 cents per 100 catties, as the usual load, when the roads were dry, was about 500 catties for one animal and 800 catties for two. A day's trip was about 80 li. This made the charge per ton mile about 34 cents. For wheelbarrows the charge was about 80 cents per 100 catties per day's travel of 70 li, 50 cents per ton mile. For rickshas, which would carry about 200 catties, the charge was $2.00 per day or some 54 cents per ton mile. Pack and riding mules were rented for $2.00 a day. A day's trip was 80 li. Porters carrying 100 catties of goods charged $1.00 for a day's journey of 80 li, 57 cents per ton mile. Special mule carts for passengers cost $4.00 for a day's trip of 100 li.

General freight transportation was provided by five shipping companies and two mule suppliers.

Rickshas were reported to have first come to Ting Hsien in the 10th month of 1927. Then there were only three. In 1931 there were 79. Their cost ranged from $90 to $120. They rented for $4.00 or $5.00 a month.

The Peking-Hankow railroad furnished north and south rail transportation for passengers and freight. Tickets were first sold in Ting Hsien in 1900. There were three stations in the hsien about 10 miles apart. The one of Tinghsien, about six li from the city, was an express stop. In 1928 the railroad handled some 3,000,000 catties of cotton, 3,000,000 catties of pears, 1,500,000 catties of sesamum oil, 1,000,000 catties of peanuts, and 1,000,000 pieces of cotton cloth.

Five postal routes radiated from the city along the hsien roads. There were postal agents in the market towns and in some of the larger villages. In other villages the business was handled by a local store which received from $1.50 to $15.00 a month for its services. For most of them

3:Chao E-5 (1939-1941)1948 AF12 North China AF12

isolation is quite voluntary. The separation between the low and the rest is, however, largely involuntary. The isolation in this case is not quite as complete as that of the rich family.

Social communication is a very subtle factor in human cooperation. As there are so many factors conditioning and, in a way, hindering the process of free communication, P'ing-chiao-tsun is not a very integrated whole. Collective action,[27] if it exists at all, is in need of a sound basis. Thus the principle of political inaction has its root in social communication.

Urbanization

In many respects, the village folks may have their characteristic ways of life; P'ing-chiao-tsun, nevertheless, is a part of the larger community of Peiping, economically, politically and socially.

P'ing-chiao-tsun is at present connected with the city of Peiping by two highways and one railway line.[28] Bus services are available at a distance of four miles and the railway station is about one mile away. No rickshaws are available in the village, but their supply is plentiful in the nearest town about a mile away. Only one bicycle is found and it is the property of the school principal. On business trips, the villagers may use their own carts, hire a rickshaw, or use the railway. On pleasure trips, they prefer to economize their financial resources at the expense of their own organic energy. The time-distance on foot is about two hours to the nearest city-gate. Unless on very special occasions, females have very little chance to see the city. The school principal is the most frequent visitor to the city.

Agricultural products are sold if at all to the agents in the nearest market-town, and very seldom directly to merchants in the city. There are, however, two families in the village which have duck-raising as their occupation. On the days of temple-fairs in the city, the heads of the families with their assistants drive their stock to their customary market-places. These two families have their interests more in the city than in the village. Mr. W-, the head of

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27 On general sociological principles of social interaction and collective action, see R. E. Park and E. W. Burgess, **Introduction to the Science of Sociology**, Chicago, 1924; also Richard T. LaPiere, **Collective Behavior**, New York, 1938.

28 On the influences of communication agencies upon social life, see M. M. Willey and S. A. Rice **Communication Agencies and Social Life**, New York, 1933.

4: Burgess E-4, 5 (1926-1927) 1928 AF12 North China AF12

671 (3) The reorganization of certain technical services of the government. There are 138 modern courts in China. These were praised highly by the Extraterritorial Commission. An excellent codification of Chinese laws is being drawn up by trained Chinese lawyers.

205 206 (4) A remarkable development of the postal and telegraph systems. "In 1911 the length of mail routes was about 120,000 miles. Now they cover more than 250,000 miles. The money-order business during this period has increased from about $6,000,000 in silver to more than $75,000,000. It is pointed out that this remarkable branch of government service is carried on almost exclusively by Chinese. Likewise, the telegraph service is now so organized that messages are received in many of the remotest parts of the Republic.

496 (5) There are 7,000 miles of railroads, and they are managed on the business side and on the technical side almost entirely by Chinese.

491 (6) Ten years ago there were scarcely any highways in China that could be used by motor cars. Now there are 10,000 miles of good roads.

625 (7) The growing efficiency of the police and street cleaning departments of many Chinese cities is a sign of progress.

744 (8) In Peking a beginning has been made in governmental public health activities. There is an epidemic prevention bureau which is embarking on the production of vaccines and serums, and an experimental public health demonstration center for one district of the capital.

654 (9) The remarkably efficient geological survey conducted by V. K. Ting is now shedding more light on the real mineral resources of China.

439 (10) The importations from foreign countries in 1880 amounted to about 80,000,000 taels ($111,111,111),[1] of

[1] The sign $ unless accompanied by the term "gold" is used in this study to designate Chinese currency. For exchange rates see pp. 63-64.